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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/997,872	11/29/2001	Luiz B. Da Silva	IL-10888	6745

7590

01/21/2004

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EXAMINER
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MANTIS MERCADER, ELENI M

ART UNIT	PAPER NUMBER
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3737

DATE MAILED: 01/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/997,872

Applicant(s)

DA SILVA ET AL.

Examiner

Eleni Mantis Mercader

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 and 8-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 8-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other: .

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## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claims 1-3 and 8-12 have been considered but are moot in view of the new ground(s) of rejection. The added feature of "a reference optical fiber" constitutes new grounds of rejection. The Examiner has approved the newly submitted drawings and the 101 and 112 rejections are withdrawn in view of the Applicant's remarks.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3 and 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boppart et al.'413 in view of VonBargen'273.

Regarding claims 1-16, Boppart et al.'413 teach all the features of the instant invention including a system for characterizing tissue, comprising: a generation system that generates an optical emission signal and an optical reference signal (col. 7, lines 10-16; referring to a system that generates an illumination signal to illuminate the sample and a reference signal directed to a reference mirror; also see Figure 2), a probe that directs the optical emission signal to the tissue (see probe unit 22), a transmission system that transmits the emission signal to and from the probe and that transmits said reference signal in a predetermined manner relative to the optical

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emission signal (col. 7, lines 16-24). The optical signals are transmitted and received through optical fibers (see col. 4, lines 55-58 and see col. 5, lines 14-16).

While Boppart et al.'413 does not explicitly state that a compensation system utilizes the reference signal to correct said emission signal, Figure 2 of Boppart et al.'413 indicates the same connections as Figure 3 of the current invention, and therefore it would have been obvious to one skilled in the art at the time that the invention was made that the reference signal is used to correct the emission and detection signals as that it is well within the knowledge of skilled artisans that reference signals are used to correct emission and/or detection signals.

In Figure 2, element 14 indicates a transmission splitter used in the same manner as in the current invention.

Optical scattering and absorption spectroscopy is performed (col. 5, lines 35-39).

Boppart et al.'413 do not explicitly teach the use of a reference optical fiber for correction of optical emission fluctuations.

In the same field of endeavor of spectrographic determinations, VonBargen'273 teaches the use of a reference fiber to correct for fluctuations of the intensity of the light source (see col. 5, lines 56-67 and col. 6, lines 1-5).

It would have been obvious to one skilled in the art at the time that the invention was made to have modified Boppart et al.'413 and incorporated the teachings of VonBargen'273 in using a reference fiber in order to make accurate spectrographic measurements (see for motivation to combine in VonBargen'273, col. 8, lines 24-30, describing compensation of fluctuations and accurate measurements).

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*Conclusion*

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Benaron et al.'518 teach a device and method of classification of tissue with a reference fiber.

Gritsenko et al.'840 teach a spectrophotometric instrument with a reference fiber.

DeThomas et al.'108 teach spectroscopic analysis with a reference fiber.

Sluss'019 teaches a sensing catheter with a reference fiber.

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

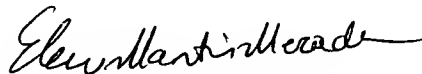
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eleni Mantis Mercader whose telephone number is 703 308-0899. The examiner can normally be reached on Mon. - Fri., 8:00 a.m.-6:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dennis Ruhl can be reached on 703 308-2262. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-0858.

  
Eleni Mantis Mercader  
Primary Examiner  
Art Unit 3737

EMM